

ABSTRACT

An interlace-to-progressive scan conversion system comprises: a spatial line averaging prefilter; a motion estimator; a three-stage adaptive recursive filter. The motion estimator comprises: a 3-D recursive search sub-component having a bilinear interpolator; a motion correction sub-component having an error-function including penalties related to the difference between a given candidate vector and a plurality of neighboring vectors; a block erosion sub-component. The motion estimator assumes that motion is constant between fields. The three-stage adaptive recursive filter comprises: a first stage that selects between using static pixels data and moving pixels data from a next field; a second stage that selects a more valid set of data between motion compensated data from a previous field and the pixels selected by the first stage; a third stage that combines an intra-field interpolation with the more valid set of data selected by the second stage.